



RCA Victor

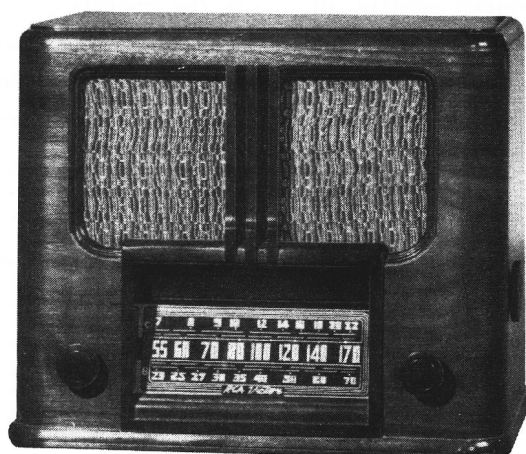
MODEL B-418

Four-Tube, Three-Band, Battery-Operated Superheterodyne Receiver TECHNICAL INFORMATION AND SERVICE DATA 1946 No. 7

SERVICE DIVISION

RCA VICTOR COMPANY LIMITED

MONTREAL



Electrical Specifications

FREQUENCY RANGES

"Standard Broadcast" (A) 540-1,720 kc (555-174 m)
"Medium Wave" (B)2.3-7.0 mc (130-42.8 m)

"Short Wave" (C)7.0-22.0 mc (42.8-13.6 m)
Intermediate Frequency455 kc

RADIOTRON COMPLEMENT

(1) Type 1A7GFirst Detector—Oscillator
(3) Type 1H5GSecond Det., A.F. and A.V.C.

(2) Type 1N5GI. F. Amplifier
(4) Type 1C5GPower Output

BATTERIES REQUIRED

"A" one 1.4 Volt Air Cell or 1.5 Dry Cell; "B" two 45 Volt heavy duty "B" Batteries

CURRENT CONSUMPTION

"A" at 1.4 Volts 0.25 Amps.
"B" at 90 Volts 9.6 Ma.

POWER OUTPUT

Undistorted 115 Milliwatts
Maximum 260 Milliwatts

LOUDSPEAKER

Type Permanent Magnet Dynamic
Diameter 5 inches
Voice Coil Impedance 6 Ohms at 400 Cycles

Mechanical Specifications

	Height	Width	Depth
Cabinet Dimensions	12-5/16 inches	14-11/16 inches	8-3/32 inches
Operating Controls	(1) Tone Switch (2) Power Switch—Volume; (3) Range Switch (4) Tuning		
Tuning Drive Ratio	18 to 1		

General Description

This Model contains a four-tube three band chassis, battery operated, mounted in a table type cabinet. The superheterodyne type of circuit is employed, incorporating such features of design as the new low-drain 1.5 volt tubes thus reducing the physical size of the batteries, magnetite core I.F. transformers, Au-

tomatic Volume Control; diode detection; resistance coupled audio system; two point tone control; phono input socket; sensitive, five-inch, permanent-magnet, dynamic loudspeaker; exceptionally low current drain; and a large, horizontal type easy-to-read glass dial.

Service Data

The various diagrams of this booklet contain all information necessary to quickly isolate causes for defective operation if such develops. The ratings of resistors, capacitors, coils, etc., are indicated adjacent

to the symbols signifying these parts on the various diagrams. Identification titles such as R1, L1, C1, etc., provide ready reference between the illustrations and Replacement Parts List.

Alignment Procedure

Cathode-Ray Alignment is the preferable method. Connections for the oscillograph are shown in the chassis drawing.

Output Meter Alignment.—If this method is used, connect the meter across the voice coil, and turn the receiver volume control to maximum.

Test-Oscillator.—For all alignment operations, connect the low side of the test-oscillator to the receiver chassis, and keep the output as low as possible to avoid a-v-c action.

Calibration Scale on Indicator-Drive-Cord-Drum.—The tuning dial is fastened in the cabinet and cannot be used for reference during alignment; therefore, a calibration scale is attached to the tuning drum. The setting of the gang condenser is read on this scale, which is calibrated in degrees. The correct setting of the gang in degrees, for each alignment frequency, is given in the alignment table.

As the first step in r-f alignment, check the position of the drum. The 150° mark on the drum scale must be vertical and directly above the center of the shaft of the turning drum when the plates are fully unmeshed. The drum is held to the shaft by means of two set-screws, which must be tightened securely when the drum is in the correct position.

Pointer for Calibration Scale.—Improvise a pointer for the calibration scale by fastening a piece of wire to the condenser gang frame, and bend the wire so that it points to the 0° mark on the calibration scale when the plates are fully meshed.

The term "Dummy antenna" means the device which must be connected between the "high" test-oscillator output and the point of connection to the receiver in order to obtain ideal alignment.

Order of Alignment	Test Oscillator			Range Selector	Receiver Dial Setting	Circuit to Adjust	Adjustment Symbols
	Connection to Receiver	Dummy Antenna	Frequency Setting				
1	1N5G grid	.1 mfd.	455 kc	"A"	Gang closed	2nd I.F.	L7, L8
2	1A7G grid	.1 mfd.	455 kc	"A"	Gang closed	1st I.F.	L5, L6
3	Ant. lead	200 mmfd.	600 kc	"A"	600 kc 32°	"A" Osc.	L11
4	Ant. lead	200 mmfd.	1500 kc	"A"	1500 kc 152°	"A" Osc.	C21
5	Repeat steps 3 and 4						
6	Ant. lead	200 mmfd.	1500 kc	"A"	1500 kc 152°	"A" Ant.	C4
7	Ant. lead	300 ohm.	6100 kc	"B"	6100 kc 151°	"B" Osc.	C23
8	Ant. lead	200 mmfd.	2440 kc	"B"	2440 kc 24°	"B" Osc.	L13
9	Ant. lead	300 ohm.	6100 kc	"B"	6100 kc 151°	"B" Ant.	C2
10	Ant. lead	300 ohm.	9550 kc	"C"	9550 kc 66°	"C" Osc.	L15
11	Ant. lead	300 ohm.	17750 kc	"C"	17750 kc 144°	"C" Ant.	C1

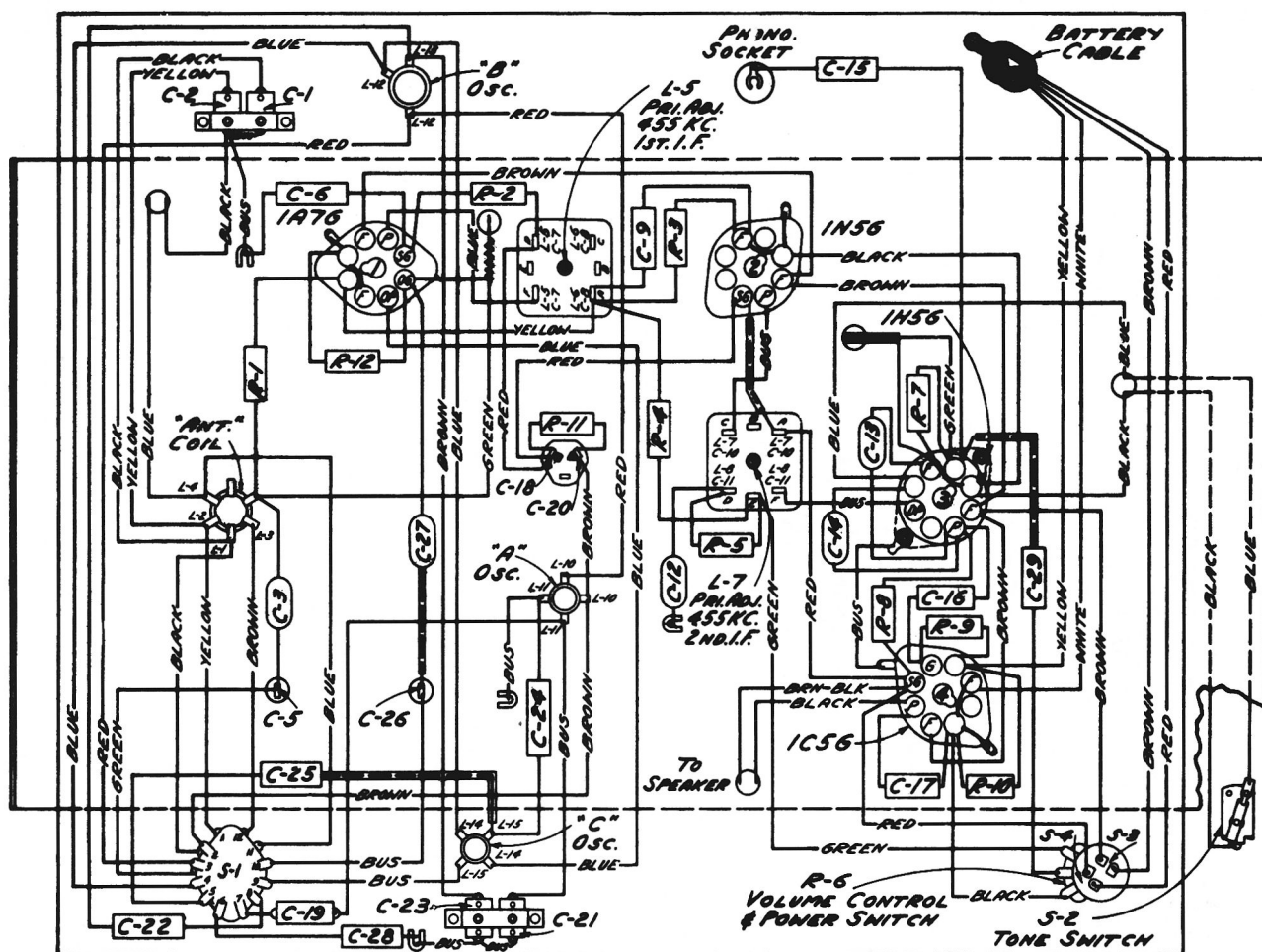


Fig. 1—Chassis Wiring Diagram

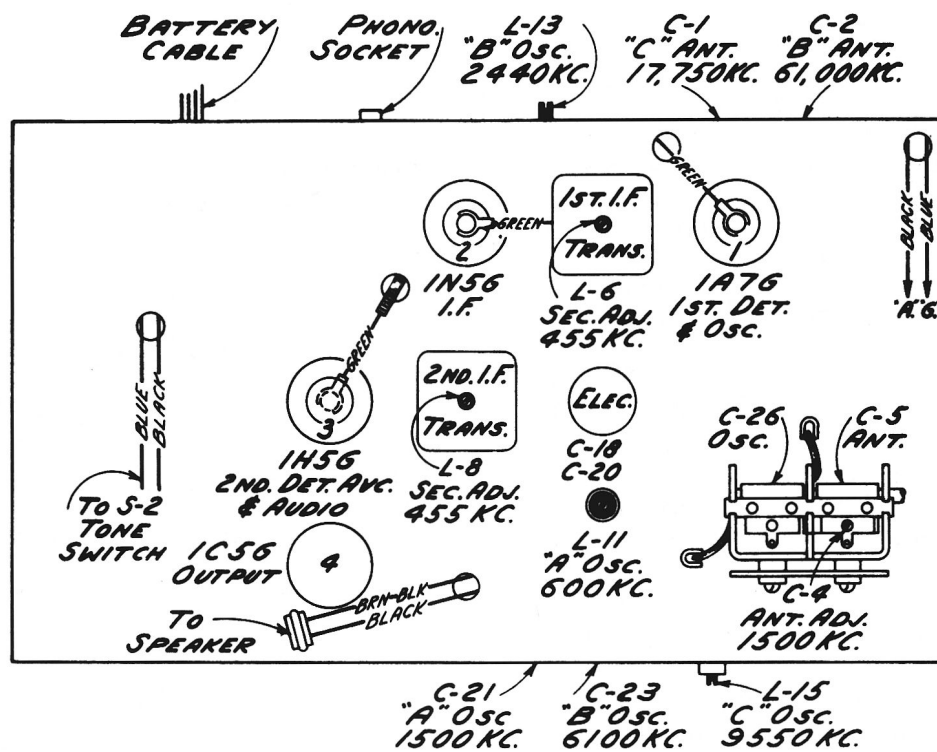


Fig. 2—Tube and Trimmer Locations

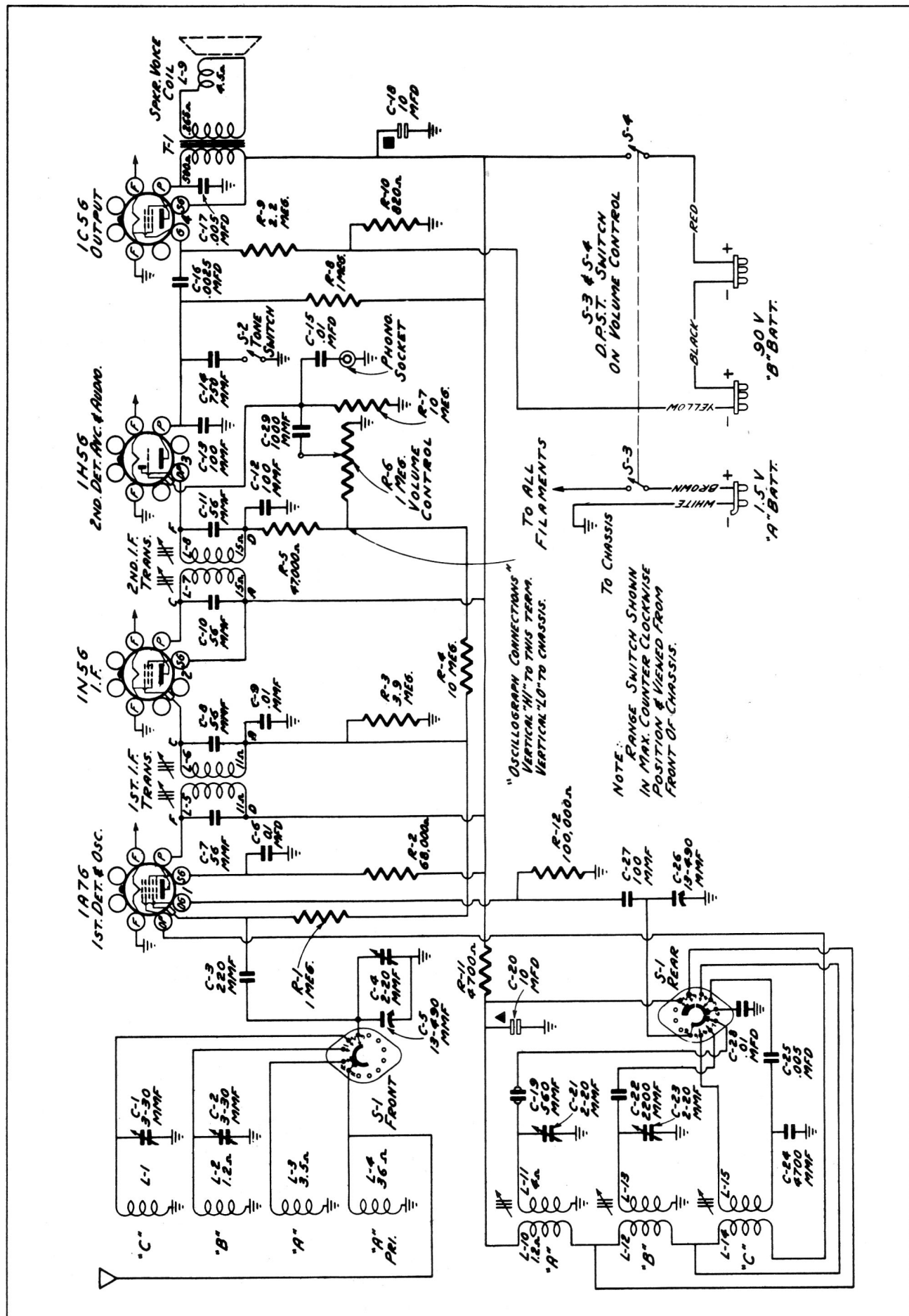


Fig. 3—Schematic Circuit Diagram

Radiotron Socket Voltages: Measured with all batteries at Normal Voltage

Radiotron	Plate	Screen Grid	Grid	Filament
1A7G Det.	81v	41v		1.4v
1A7G Osc.	76v	..		1.4v
1N5G I.F.	81v	81v		1.4v
1H5G Audio	55v	..		1.4v
1C5G Output	79v	82v	—7.5v	1.4v

REPLACEMENT PARTS FOR MODEL B-418

Insist on genuine factory tested parts, which are readily identified and may be purchased from authorized dealers.

STOCK NO.	DESCRIPTION	STOCK NO.	DESCRIPTION
	RECEIVER ASSEMBLIES		
S-3186	Cable - Battery cable with plugs..	14560	Resistor - 100,000 ohms 1/4 watt (R12)
31292	Capacitor - Adjustable trimmer bank comprising 2 of 3-20 mfd (C1-C2)	13730	Resistor - 1 megohm 1/4 watt (R1-R8)
32830	Capacitor - Adjustable trimmer bank comprising 2-20 mfd. (C21-C23)	12679	Resistor - 2.2 " 1/4 " (R9)
12720	Capacitor - 100 mfd (C12-C13-C27)	32809	Resistor - 3.9 " 1/4 " (R3)
12694	Capacitor - 220 " (C3)	13601	Resistor - 10 " 1/4 " (R4-R7)
31433	Capacitor - 500 " (Close Tolerance C19)	34373	Retainer - "C" washer for drive shaft (Pkg. 5)
12536	Capacitor - 750 " (C14)	S-3213	Shaft - Station selector drive shaft
37617	Capacitor - 1000 " (29)	35787	Socket - Phono input socket
44338	Capacitor - 2200 " (C22)	31319	Socket - Tube socket
31899	Capacitor - 4700 " (C24)	31418	Spring - Dial cord spring (Pkg. 2)
34459	Capacitor - .0026 mfd. (C16)	S-3182	Switch - Range switch (S1)
4838	Capacitor - .005 " (C17-C25)	S-3153	Switch - Tone switch (S2)
4937	Capacitor - .01 mfd. (C9, C15, C28)	36121	Transformer - 1st I.F. transformer (L5, L6, C7, C8)
4939	Capacitor - .1 " (C6)	35628	Transformer - 2nd I.F. transformer (L7, L8, C10, C11)
33790	Capacitor - Electrolytic 2-10 mfd. (C18-C20)	S-3181	Volume control and switch (R6, S3, S4)
32817	Condenser - Variable tuning condenser (C4, C5, C26)		SPEAKER ASSEMBLIES (5 in. P.M.)
32821	Coil - Antenna coil L1, L2, L3, L4		
31689	Coil - "A" Band oscillator coil - L10L11	32907	Cap - Dust cap for cone center (Pkg. 5)
33784	Coil - "B" " " "	35570	Cone - Speaker cone and voice coil (L9)
33785	Coil - "C" " " "	5118	Plug - 2-contact male plug
32634	Cord - Drive cord (approx. 48-1/2")	S-3187	Speaker - complete CRL 525-1
35788	Core - Oscillator coil, core and stud	S-2804	Transformer - output (T1)
32835	Drum - Drive cord-drum assembly		MISCELLANEOUS ASSEMBLY
S-3212	Indicator - Station selector pointer & carriage		
5119	Plug - Two contact speaker plug	S-3469	Dial - Dial scale
32208	Plug - " " "A" battery plug	S-3184	Knob - Range switch knob
12827	Plug - Three contact "B" " "	34490	Knob - Tone switch knob
14076	Resistor - 820 ohms 1/4 watt (R10)	S-3185	Knob - Volume control knob
30146	Resistor - 4700 " 1/4 " (R11)	32595	Shield - Tube shield
30562	Resistor - 47,000 ohms 1/4 watt (R5)	32598	Shield - Tube shield cap (Pkg. 2)
14138	Resistor - 68,000 " 1/4 " (R2)	30900	Spring - Knob retaining spring (Pkg. 5)

* Universal type cord. All parts & prices subject to change or withdrawal without notice.